Amendments to the Specification:

In the specification:

On page 1, please replace the paragraph beginning on line 24 with the following amended paragraph:

The conventional two-stage unidirectional configuration is advantageous in that it has a higher maximum output power than a single stage optical amplifier and allows using relatively inexpensive amplifying units which might have differing optical parameters. However, when connecting such amplifiers into the two-stage configuration, degradation may appear in the flatness of the gain over the band of optical wavelengths supported by the combined amplifier. ~~That's why~~ For this reason, the two amplifiers for the two-stage configuration are usually selected to have gain characteristics which allow ~~compensating~~ them to compensate for one another. The gain flatness can be adjusted by an operator during the manufacturing process, when ~~interconnecting between~~ connecting the two stages. In practice, when manufacturing the assembly, the optical parameters of the first stage and the second stage of the unidirectional configuration are matched to produce the best performance, using a control interconnection between the two stages~~, that~~. That control interconnection ~~comprising~~ comprises a communication channel and a micro controller, both provided within the assembly and serving the two mentioned stages of the unidirectional assembly. During operation of the assembly, the control interconnection continues ~~fulfilling~~ to fulfill its functions for matching parameters of the amplifiers and ~~coordinates~~to coordinate their operation.

On page 2, please replace the paragraph beginning on line 16 with the following amended paragraph:

The unidirectional configuration may include a network element connected between the two stages (in the mid-stage); ~~by now,~~ such intermediate elements ~~have been used for~~ provide signal attenuation, dispersion compensation, or other features ~~etc~~.

Also on page 2, please replace the paragraph beginning on line 22 with the following amended paragraph:

It should be mentioned [[,]] that the conventional two-stage or multi stage unidirectional assembly, even when allowing independent control of parameters of the stages by the control circuit, is arranged in such a way that if a fiber cut occurs before the first stage amplifier, it behaves as a single integral device . That is [[i.e.]], all stages of the assembly are shut down by the assembly controller, since the whole assembly appears to be useless in the absence of the input optical signal. Such a ~~feature contradicts to inserting~~ shutdown would adversely affect the use of an OADM (Optical Add Drop Multiplexer) in the mid-stage of the above-described configuration. One should recall that an OADM is intended for receiving a WDM (wavelength division multiplexed) multi-channel optical signal, dropping at least part of the optical information channels in the signal, and/or adding information to at least one of the vacant optical channels in the signal for further transmitting a newly composed multi-channel multiplexed optical signal. Therefore, an OADM in the mid-stage ~~seems to be~~ can be rendered useless, since the complete shutdown of the two-stage configuration in the case of a fiber cut is harmful not only to the information received at the 1st stage, but also to the information added by the OADM.

On page 9, please replace the paragraph beginning on line 15 with the following amended paragraph:

secondly, an OADM, if inserted in the mid-stage of the conventional configuration, would be disabled since the complete shutdown of the two-stage configuration in a case of a fiber cut is harmful to the information added by the OADM; it should be noted that the information introduced by the OADM comes from source(s) non-affected by the fiber cut, and could be independently transmitted to the network if not for the complete shut down of the assembly;